Hecla
MINING COMPANY

October 15, 2004

**Sent via U.S. Mail**

Eric Johnson
U.S. Environmental Protection Agency
Region 8, 8ENF-T
999 18th Street, Suite 300
Denver, Colorado 80202-2466

RE: Progress report for September 2004 activities - Hecla Mining Company Apex Site (EPA ID No. UT982589848, Docket No. RCRA-8-99-06)

Dear Mr. Johnson:

Per paragraph 64 of the Order, enclosed is a copy of the September 2004 progress report for your records. Copies of the progress reports for the period before execution of the Order will be forwarded to you under separate cover.

If you have any questions please do not hesitate to call me at (208) 769-4135 or e-mail at cgypton@hecla-mining.com.

Sincerely,

Chris Gypton
Project Manager

Encl

Cc: John Galbavy, Esq. (HMC) (w/o attachments)
*John Jacus, Esq. (DG&S)*

UE 03-24

Hecla MINING COMPANY

October 5, 2004

**MEMORANDUM TO:** Paul Glader

**COPIES TO:** file, distribution

**FROM:** Chris Gypton

**SUBJECT:** **Progress Report No. 5 for period ending September 30, 2004; Pond 2 Final Closure - Apex Site, Washington County, Utah**

## Summary

Pumping of the water collected by the system into the evaporation cells started on July 29th. During the reporting period the collection sumps were pumped out on 13 days. The data from start of dewatering rate was re-evaluated on September 18th and additional data collected on September 24th. Estimated quantities of water collected since July 29th are as follows:

| Time Period | Gallons in Period | Cumulative Gallons |
|---|---|---|
| July 29 through Aug 31 | 11,250 | 11,250 |
| September 1 through 30 | 7,686 | 18,936 |

Based on visual observations during the month the overall evaporation rate is equal to or greater than the rate we are recovering the liquid from the collection sumps.

Subject to the results of the investigation scheduled for October 6th , our best estimate to start Phase III (construction of the final cover) is on or before the week of October 17th . The site work would be completed in late December.

The RCRA 7003 order was signed by Hecla on September 1st and transmitted to USEPA on September 2nd . A summary of the status of the deliverables required in the order has been added to the Cost and Schedule section of this progress report.

## Major Issues

1. Drainage rate of excess water from tailings – as of the close of the month the recovery level in the sumps has continued to decline at a moderate rate and the rate of evaporation exceeds the rate we are pumping out the collection system. However, the sumps are recovering at a rate faster than expected and there is still some residual seepage reporting to the seepage collection ditch on the southwest side of the impoundment. The embankment needs to be stable enough to install the internal liner in Phase III, prior to final capping. The start of Phase III may have to be delayed up to three weeks if investigations planned for early October indicate additional drainage is required (see next report section).

## Work Planned for Next Period

1. Test pits will be excavated in the embankment, above the seepage collection ditch and at areas that had exhibited seepage in 1998, to determine if conditions are suitable to start Phase III. This activity is scheduled for October 6th. Representatives from Hecla's construction manager and engineer of record, plus Hughes General Contractors will be present. The mobilization and start dates of the Phase III work will be determined at that time.
2. Continue periodic pumping of the drainage sumps into the evaporation cells and monitoring of water levels and overall impoundment condition. This work will continue up to the start of Phase III.
3. The solids in the largest evaporation cell will be re-sampled on October 5th to confirm the test results obtained from the September 3rd sampling. Results from this round of testing are expected by the fourth week in October.

## Work in Process

*Procure Outside Services*

1. Hughes' contract for the drain sump installation was closed out.
2. The Phase III construction contract with Hughes was signed by Hecla management on September 23rd and one copy returned to Hughes for their files.

*Contractor Submittals*

1. A written request was sent to Hughes on September 20th for an updated insurance certificate referencing the contract title and product data on the GCL they are proposing to install.

*Phase II Drain/Evaporate Excess Water*

1. Current plan is to inspect and pump out the sumps every two to three days.
2. This phase will continue until seepage into the existing collection pond either ceases completely or declines to a point where the embankment can be safely reconstructed without a release of tailings and/or water from the impoundment. This evaluation will be

made on October 6th. The sumps were pumped out every other day starting with July 29th.

3. Gila Management compiled an estimate of the dewatering rate from July 29th through September 13th. The report is attached.

## Sampling and Analysis in Period

*Material Characterization*

1. The solids in the dewatering system evaporation cells were sampled on September 3rd, and results received on September 22nd. All samples passed the TCLP tests. Refer to attached report.

*Field Tests, Inspections & QA/QC*

1. Alpha Engineering surveyed the consolidation monuments on September 9th; incremental settlement, as compared to the May 19th survey, ranged from 0.02 to 0.07 feet. A copy of the results in attached. Prior surveys recorded negligible settlement. Alpha will survey the monuments again by the third week in October.
2. Dave Jones (Construction Manager) visited the site on September 23rd through the 24th to evaluate dewatering progress and collect data to update the estimate the dewatering rate.

## Cost and Schedule

Committed costs in September 2004 were approximately $13,200. The majority of the expenditures were associated with construction management oversight of the drainage and evaporation system operation. October costs are expected to be significantly higher due to contractor mobilization and the start of Phase III work. Total project to date committed is approximately 208,300. Forecast cost at completion is $685,000.

The cost report for September is attached. Current status of the deliverables listed in the RCRA 7003 order is as follows:

| Deliverable | Reference Paragraph | Due | Remarks |
|---|---|---|---|
| Post warning signage around perimeter of site | 57 | **15 days after effective date of order** | Work completed on March 9, 2004 |
| Begin implementation of closure plan | 63 | **45 days after receipt of filing of order** | Work started on February 23, 2004 |
| Monthly progress reports | 64 | **28th day after close of month** | Requirement in effect after order is filed. |
| Completion report | 65 | **30 days after completion of all closure plan tasks** | To be submitted within 30 days after work has been physically completed and all contracts closed out. |
| | | | |

The update of the schedule milestones is on the following table:

| Milestone | Target | Actual | Remarks |
|---|---|---|---|
| Issue bid package – Phase I (Sump Drains) | 6/14/04 | ***6/15/04*** | Portion of RFP materials issued at pre-bid on 6/14/04; remainder sent via courier |
| Issue RFP package – Phase III | 6/24/04 | ***6/24/04*** | |
| Award contract for Phase I | 6/24/04 | ***6/29/04*** | Date contract was shipped to Hughes |
| Pre-bid meeting – Phase III | 7/19/04 | ***7/19/04*** | |
| Start Phase I (Sump Drains) construction | 7/12/04 | ***7/19/04*** | |
| Start Phase II (Evaporation) | 7/19/04 | ***7/29/04*** | |
| Receive bids for Phase III | 8/2/04 | ***8/2/04*** | |
| Start Phase III construction | 10/20/04 | | Revised target based on dewatering progress |
| Complete Phase III construction | 12/20/04 | | Revised target based on late PH III start |
| | | | |

The Phase III contractor is ready to mobilize with our notification. The mobilization date will be confirmed on October 6th in conjunction with the site investigation scheduled for that date.

**Attachments**

1. "Phase II – Sump Drainage System", dewatering progress report by Gila Management LLC, September 18, 2004

2. "Results from September 3, 2004 sampling and analysis of drainage system evaporation cell solids"; Memo from C. Gypton to P. Glader dated September 30, 2004

3. "Hecla Monument Monitoring"; summary table and location map by Alpha Engineering, St George Utah

Hecla Mining Company

Apex Site
Pond 2 Final Closure
Project Cost Report

Date Printed:10/11/2004

| Activity | 2004 Budget | Revised Budget May 2004 | Committed Cost this Period | Cumulative Committed Cost To Date 9-30-04 | Forecasted Cost To Complete | Forecasted Final Cost | Remarks on Forecast to Complete |
|---|---|---|---|---|---|---|---|
| **Phase I - Drain Excess Liquid From Tailings** | | | | | | | |
| Test wick program - Nilex | | 35,000 | | 35,000 | 0 | 35,000 | |
| Earthwork during wick test program | | 2,000 | | 1,768 | 0 | 1,768 | |
| Install drainage piping and sumps: | | | | | | | |
| Contractor mobilization/demobilization | | 5,500 | | 5,500 | 0 | 5,500 | |
| Install sumps - material & labor | | 20,000 | | 24,500 | 0 | 24,500 | |
| Build surface evaporation ponds | | 2,700 | | 838 | 0 | 838 | |
| Remove existing evaporaton ponds | | 2,000 | | 0 | 0 | 0 | Work moved to Phase III |
| Bury existing pond material & regrade | | 2,000 | | 0 | 0 | 0 | Work moved to Phase III |
| Survey monuments | | 3,500 | 232 | 928 | 500 | 1,428 | One trip plus final report |
| **Subtotal Phase I** | **189,200** | **72,700** | | **68,534** | **500** | **69,034** | |
| | | | | | | | |
| | | | | | | | |
| **Phase II - Evaporate Excess Liquid** | | | | | | | |
| Operate evaporation & pumping system | | 8,000 | 2,232 | 8,089 | 1,700 | 9,789 | Estimate 10 trips to complete |
| Test pits to determine dewatering progress | | | | 0 | 2,760 | 2,760 | Hughes backhoe + 2 oper + super @1 day + mob/demob |
| **Subtotal Phase II** | **6,000** | **8,000** | **2,232** | **8,089** | **4,460** | **12,549** | |
| | | | | | | | |
| **Phase III - Regrading & Final Cover System** | | | | | | | |
| Contractor mobilization/demobilization | | 20,000 | | 0 | 42,000 | 42,000 | |
| Excavate existing embankment | | 15,000 | | 0 | 46,000 | 46,000 | |
| Final grading of 1% surface | | 2,500 | | 0 | 56,000 | 56,000 | |
| Place barrier layer (GCL) - top | | 200,000 | | 0 | 150,000 | 150,000 | |
| Place barrier layer (GCL) - outslopes | | 50,000 | | 0 | 0 | 0 | Incl w/ GCL cover cost |
| Excavate diversion channel | | 9,100 | | 0 | 37,000 | 37,000 | |
| Place 12" protection layer on top surface | | 19,000 | | 0 | 45,000 | 45,000 | |
| Reconstruct outside embankment | | 7,350 | | 0 | 0 | 0 | Incl w/ excavation of existing embankment |
| Finish grade 1% surface - top | | 3,000 | | 0 | 0 | 0 | Incl w/ 12" protection layer |
| Place surface layer at outslopes (D50 = 1") | | 4,800 | | 0 | 0 | 0 | Incl w/ 12" protection layer |
| Recontour diversion channel for drainage | | 2,000 | | 0 | 0 | 0 | Incl w/ diversion channel exc |
| Place diversion channel erosion protection (3" rock) | | 3,800 | | 0 | 0 | 0 | Incl w/ diversion channel exc |
| Surveying - diversion channel drainage | | 2,500 | | 0 | 0 | 0 | Incl w/ diversion channel exc |
| Remove existing evaporation ponds | | 0 | | 0 | 7,500 | 7,500 | |
| Clear site for construction | | 3,000 | | 0 | 3,000 | 3,000 | |
| Performance & Payment Bond | | 0 | | 0 | 4,500 | 4,500 | |
| **Subtotal Phase III** | **337,000** | **342,050** | **0** | **0** | **391,000** | **391,000** | |
| | | | | | | | |
| **Field Indirect Costs** | | | | | | | |
| Construction Management labor | | 108,360 | 7,658 | 83,770 | 32,440 | 116,210 | 8 wks x 45 hrs x $75 + 40 x $75 +$85 x 16 |
| Construction Management field expenses | | 38,575 | 1,356 | 14,994 | 6,800 | 21,794 | 8 wks x 5 days x $125 + $1800 |
| Field office trailer | | 6,525 | | 1,178 | 1,160 | 2,338 | 4 months @ $170/mo + $480 demob charge |
| CQA testing | | 9,200 | | 0 | 9,200 | 9,200 | 8tripsx8hrx100/hr+300/testx4 |
| CQA completion report | | 5,000 | | 0 | 5,000 | 5,000 | |
| Survey and layout | | 2,208 | | 0 | 2,208 | 2,208 | 4daysx8hoursx69/hour |
| Material classification tests | | 1,500 | 891 | 1,928 | 700 | 2,628 | TCLP tests on evap salts; allow5 addn'l tests |
| Consulting Engineer | | 42,200 | 500 | 25,288 | 16,912 | 42,200 | |
| **Subtotal Consultants** | **164,500** | **213,568** | **10,405** | **127,158** | **74,420** | **201,578** | |
| | | | | | | | |
| | | | | | | | |
| **Hecla Costs** | | | | | | | |
| Labor | 15,500 | 15,500 | 566 | 4,567 | 4,000 | 8,567 | $1000/month ave for remaining 4 months |
| Travel expenses | 3,200 | 3,200 | | 0 | 2,200 | 2,200 | Two trips @ $1100 per ea |
| **Subtotal Hecla Costs** | **18,700** | **18,700** | **566** | **4,567** | **6,200** | **10,767** | |
| | | | | | | | |
| **Total Pond 2 Final Closure** | **716,400** | **655,018** | **13,203** | **208,347** | **476,580** | **684,927** | |

Prepared By:
Gila Management, LLC

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# APEX SITE
# POND 2 FINAL CLOSURE

## PHASE II – SUMP DRAINAGE SYSTEM

**Prepared for:**

**HECLA MINING COMPANY**
6500 Mineral Drive, Suite 200
Coeur d'Alene, Idaho 83815-8788

**Prepared by:**

J. David Jones
Construction Manager
Apex Pond 2 Final Closure
Gila Management, LLC
8987 E. Tanque Verde #309-363
Tucson, AZ 85749

September 18, 2004

## PHASE II – SUMP DRAINAGE SYSTEM

### SUMMARY

The Apex Pond 2 site near St. George, Utah is in the process of pumping underground liquids to atmospheric evaporation to facilitate the rapid drainage of liquids and consolidation of materials within the impoundment prior to construction of the final cover system (Phase III). The goal of the drainage system is to lower the phreatic surface of the pond to an elevation at or below the top of the existing liner in the pond perimeter areas known to have liquid seepage in the past. It has been established by prior test boring and test pit excavation that the phearatic surface of the pond is approximately five feet below ground surface which is at or near the interface between the temporary cover material and the waste material. This level is above the top of the existing spray-on asphaltic fabric impoundment liner by approximately three feet. It was recognized early in the Pond 2 Final Closure Project that a method to allow for the rapid drainage and consolidation of materials prior to construction of the final cover system would have the following advantages:

- A more complete removal of the unlined embankment materials. The embankment materials removed would be easier to excavate in a consolidated form.
- A better tie in between the existing asphaltic liner and the new (GCL) liner system, minimalizing saturation of the interface material. This would assure the long-term primary objective of the closure plan: No materials (solids or liquids) should leave the contained impoundment area.
- Better control of materials at the excavation face.

The total liquid pumped from the beginning of the maintenance program, July 29, 2004 through and including September 13, 2004 is 14,797 gallons.

### BACKROUND

H. C. Hughes & Sons, Inc, General Contractors was hired to construct three trenches approximately 50 feet inside the pond perimeter in the known seepage areas. In these trenches a sump system would be constructed consisting of a series of 24" vertical ADS pipes placed at 50-foot intervals. The sumps would be fed by 4" perforated pipe sloped for drainage into the sumps at an approximate 8% grade. The bottom of the sumps would be approximately 8 feet below grade. The locations and sump trench lengths are:

- Section 1, West side of pond: 300 feet with 7 sumps
- Section 2, East side of pond: 200 feet with 5 sumps
- Section 3, North side of pond: 200 feet with 5 sumps

Along with the sump system, evaporation ponds were constructed in each of these three areas to facilitate the atmospheric evaporation of the liquids pumped out of the sumps. Construction commenced on July 20, 2004 and completed on July 28, 2004.

All H. C. Hughes personnel were in compliance with the requirements of the Hecla Mining Company Health & Safety Plan, Decontamination Plan and the provisions of the OSHA regulation 29 CFR 1910.120.

## POND MAINTAINANCE

Doug Truman, Site Caretaker, is currently pumping out standing liquid in the sumps approximately three times a week. This work commenced on July 29, 2004 and is, as of this date, on going. From the period between July 29, 2004 and August 18, 2004 a record was kept of the sumps that were pumped on each of the days maintenance was performed. The duration of the pumping was not recorded in this period. On site visits by the Apex Pond 2 Final Closure Construction Manager on August 20, 2004 and August 24, 2004, determined that the rate of liquid being pumped by submersible methods was 6 gallons per minute. A timed method was employed on these dates to determine the quantity of liquid being pumped out of the sumps. The quantities recorded were used in the page 1 table (giving the lower values) to determine the overall quantity of liquid pumped. The Page one table is, therefore only an estimate.
From August 20, 2004 through September 13, 2004, a timed method was employed to determine quantities pumped. This is reflected in Page 2. Due to the estimated method utilized on the Page 1 table, this number is an estimate, although a conservative one.
Page 3 is a bar chart of quantities pump during the entire report period.

## ATTACHMENTS

The following pages are included in this report:

- Page 1 – PHASE II Pumping of sumps from July 29, 2004 to August 18, 2004
- Page 2 – PHASE II Pumping of sumps from August 20, 2004 to September 13, 2004
- Page 3 – PHASE II Sump Drainage System Bar Chart
- PHASE II: PLAN VIEW OF SUMPS AND EVAPORATION PONDS

**PHASE II - PUMPING OF SUMPS FROM JULY 29, 2004 TO AUGUST 18, 2004**
**ALL VALUES GIVEN IN THE TABLE ARE ESTIMATED. SEE NOTES BELOW.**

| SUMP NO. | 07/29/2004 | 07/30/2004 | 08/02/2004 | 08/04/2004 | 08/06/2004 | 08/08/2004 | 08/10/2004 | 08/12/2004 | 08/14/2004 | 08/16/2004 | 08/18/2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-1 | | | 74 | 74 | 74 | 74 | | 74 | 74 | 74 | |
| 1-2 | 57 | | | 57 | 57 | 57 | 57 | | 57 | 57 | |
| 1-3 | | | | | | | | | | | |
| 1-4 | 50 | | | | 50 | | | | 50 | | 50 |
| 1-5 | | | 56 | 56 | 56 | 56 | 56 | 56 | 56 | | |
| 1-6 | | | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 |
| 1-7 | | | | 45 | | 45 | | 45 | 45 | | 45 |
| 2-1 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 |
| 2-2 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 |
| 2-3 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 |
| 2-4 | | | 83 | | 83 | 83 | | 83 | | | |
| 2-5 | | | | | 71 | 71 | | 71 | 71 | | |
| 3-1 | | | 55 | | 55 | 55 | | 55 | 55 | | 55 |
| 3-2 | | | 50 | 50 | 50 | 50 | 50 | 50 | 50 | | 50 |
| 3-3 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| 3-4 | 70 | | 70 | | 70 | 70 | | 70 | 70 | | 70 |
| 3-5 | | | | | | 62 | | | | | |
| est. totals | 480 | 303 | 745 | 639 | 923 | 980 | 520 | 861 | 885 | 488 | 627 |

All ESTIMATED quantites are for the period from 7/29/04 to 8/18/04:
Liquid pumped by Section (GALLONS):

| | Tot. / Period | Avg. / Visit |
|---|---|---|
| Section 1 (West side): | 2220 | 202 |
| Section 2 (East side): | 3256 | 296 |
| Section 3 (North side): | 1975 | 180 |
| Totals: | **7451** | **677** |

Notes:
1/ Values in table are from quantites measured on August 20 & 24. Where two quantites were measured, the lowest quality was used.
2/ The value for sump 1-4 is estimated.

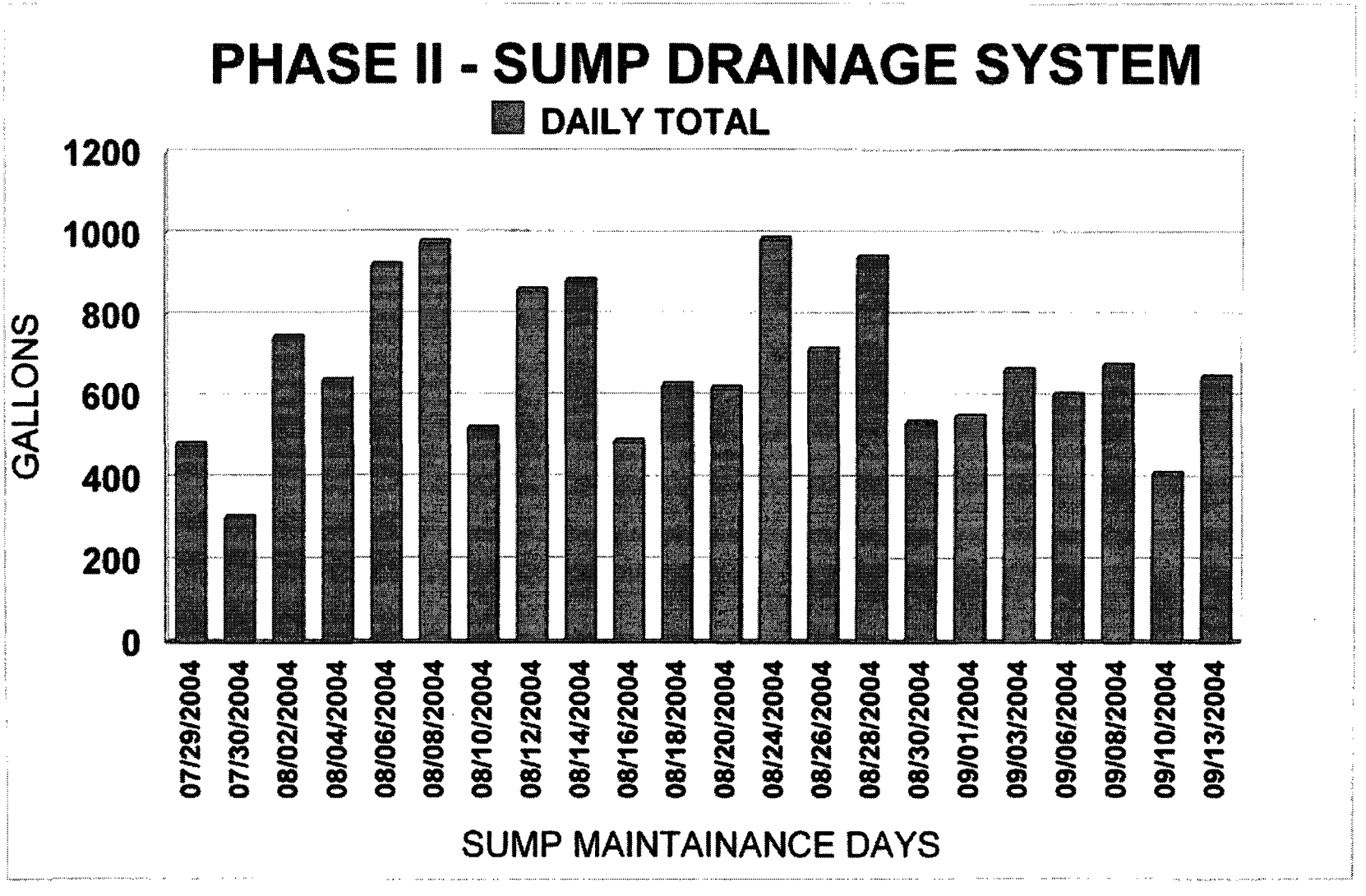
## PHASE II - PUMPING OF SUMPS FROM AUGUST 20, 2004 TO SEPTEMBER 13, 2004

| SUMP | 08/20/2004 | | 08/24/2004 | | 08/26/2004 | | 08/28/2004 | | 08/30/2004 | | 09/01/2004 | | 09/03/2004 | | 09/06/2004 | | 09/08/2004 | | 09/10/2004 | | 09/13/2004 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NO. | TIME | GAL. | TIME | GAL. | TIME | GAL. | TIME | GAL. | TIME | GAL. | TIME | GAL. | TIME | GAL. | TIME | GAL. | TIME | GAL. | TIME | GAL. | TIME | GAL |
| 1-1 | | | 12:20 | 74 | 10:40 | 64 | 09:50 | 59 | 08:30 | 51 | 07:25 | 44.5 | | | 09:25 | 56.5 | 08:10 | 49 | 08:35 | 51.5 | | |
| 1-2 | | | 09:30 | 57 | 08:50 | 53 | 08:00 | 48 | 07:40 | 46 | 07:45 | 46.5 | | | 08:10 | 49 | | | 07:55 | 47.5 | | |
| 1-3 | | | | | | | | | | | | | | | | | | | | | | |
| 1-4 | | | | | 08:30 | 51 | | | 05:00 | 30 | | | | | | | | | | | 09:00 | 54 |
| 1-5 | 14:45 | 88.5 | 09:15 | 55.5 | 09:30 | 57 | 09:00 | 54 | | | | | 12:45 | 76.5 | | | 11:10 | 67 | | | 09:45 | 58.5 |
| 1-6 | 09:00 | 54 | 11:20 | 68 | 10:50 | 65 | 11:00 | 66 | 09:30 | 57 | | | 14:20 | 86 | 11:40 | 70 | 10:40 | 64 | | | 08:05 | 48.5 |
| 1-7 | 07:30 | 45 | | | 08:50 | 53 | 08:00 | 48 | | | | | 08:30 | 51 | | | | | | | | |
| 2-1 | 16:00 | 96 | 14:40 | 88 | 13:50 | 83 | 14:50 | 89 | 13:20 | 80 | 11:55 | 71.5 | 14:20 | 86 | 12:30 | 75 | 11:35 | 69.5 | 12:10 | 73 | 11:30 | 69 |
| 2-2 | 09:00 | 54 | 10:07 | 60.7 | 11:20 | 68 | 10:00 | 60 | 09:50 | 59 | 10:20 | 62 | 10:10 | 61 | 10:20 | 62 | 10:30 | 63 | 10:00 | 60 | 09:30 | 57 |
| 2-3 | 16:20 | 98 | 18:30 | 111 | 15:40 | 94 | 17:10 | 103 | 15:20 | 92 | 14:45 | 88.5 | 12:40 | 76 | 11:20 | 68 | 12:10 | 73 | 11:40 | 70 | 11:30 | 69 |
| 2-4 | | | 13:45 | 82.5 | | | 11:25 | 68.5 | | | 10:00 | 60 | | | 09:45 | 58.5 | 10:15 | 61.5 | | | 10:00 | 60 |
| 2-5 | | | 11:50 | 71 | | | 09:20 | 56 | | | 09:30 | 57 | | | 08:15 | 49.5 | 11:30 | 69 | | | 10:50 | 65 |
| 3-1 | | | 09:10 | 55 | | | 08:15 | 49.5 | | | 09:00 | 54 | | | | | | | 08:30 | 51 | | |
| 3-2 | 08:20 | 50 | 10:30 | 63 | | | 09:25 | 56.5 | 08:30 | 51 | | | 08:40 | 52 | | | 08:15 | 49.5 | | | 08:20 | 50 |
| 3-3 | 10:35 | 63.5 | 10:50 | 65 | 09:50 | 59 | 11:00 | 66 | 11:25 | 68.5 | 10:50 | 65 | 10:30 | 63 | 09:45 | 58.5 | | | 09:35 | 57.5 | 09:10 | 55 |
| 3-4 | 11:40 | 70 | 12:35 | 75.5 | 11:20 | 68 | 13:15 | 79.5 | | | | | 11:05 | 66.5 | | | 09:45 | 58.5 | | | 10:10 | 61 |
| 3-5 | | | 10:20 | 62 | | | 06:30 | 39 | | | | | 07:35 | 45.5 | 09:15 | 55.5 | 08:30 | 51 | | | | |
| totals | | 619 | | 988.2 | | 715 | | 942 | | 534.5 | | 549 | | 663.5 | | 602.5 | | 675 | | 410.5 | | 647 |

All quantites are for the period from 8/24/04 to 9/13/04:
Liquid pumped by Section (GALLONS):

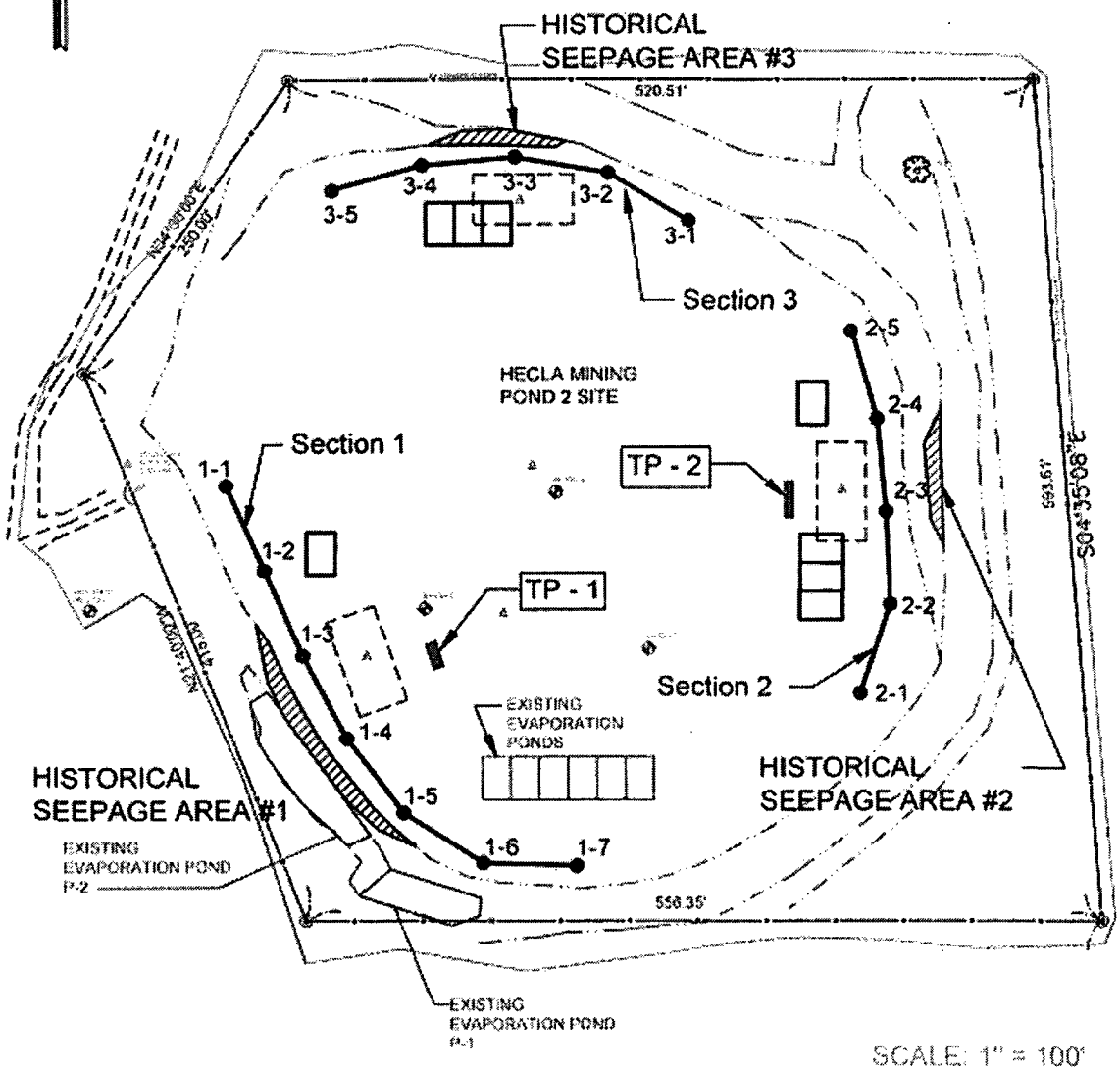
| | Tot. / Period | Avg. / Visit |
|---|---|---|
| Section 1 (West side): | 2164 | 197 |
| Section 2 (East side): | 3248 | 295 |
| Section 3 (North side): | 1935 | 176 |
| Totals: | **7346** | **668** |

Total liquid pumped
from 7/29/04 to 9/13/04
Page 1 + Page 2 = **14,797** GAL.


PHASE II - SUMP DRAINAGE SYSTEM
DAILY TOTAL
GALLONS
1200
1000
800
600
400
200
0
07/29/2004
07/30/2004
08/02/2004
08/04/2004
08/06/2004
08/08/2004
08/10/2004
08/12/2004
08/14/2004
08/16/2004
08/18/2004
08/20/2004
08/24/2004
08/26/2004
08/28/2004
08/30/2004
09/01/2004
09/03/2004
09/06/2004
09/08/2004
09/10/2004
09/13/2004
SUMP MAINTAINANCE DAYS

## PHASE II: PLAN VIEW OF SUMPS AND EVAPORATION PONDS

Note: The historical seepage areas, 1, 2 & 3 are not active areas of concern and seepage in these areas has not taken place for approximately nine years. Sump placement was based on this information to facilitate pond liquid level drainage.




SCALE: 1" = 100'

PH2SD02.dwg

U89848
03-24

Hecla
MINING COMPANY

September 30, 2004

**MEMORANDUM TO:** Paul Glader

**COPIES TO:** file
L. Brevick – Gila Mgmt

**FROM:** Chris Gypton

**SUBJECT:** **Results from September 2004 sampling and analysis of drainage system evaporation cell solids; Pond 2 Final Closure, Apex site**

The closure plan assumed any solids remaining from the evaporation of the excess water extracted from the Pond 2 tailings could be buried in the impoundment prior to final capping. This assumption was subject to material characterization.

The solids were sampled on September 3rd , and the TCLP test results received on September 22nd . None of the test results exceeded the TCLP toxicity limits for the eight RCRA metals. However, sample number CB896824 had a higher level of cadmium than the rest of the samples; the corresponding evaporation cell is the largest so we will take additional confirmatory samples to ensure these solids are below the limits.

The samples taken from the other cells are well below the toxicity limits, therefore these solids and the cell liners will be buried in the impoundment when it is capped later this fall. The confirmation test results for the largest cell should be received by late October.

Attached is atabl e summarizing the test results, Figure 1 (a diagram depicting the sample locations), analytical and QA/QC reports from SVL Analytical, Inc. and a copy of the Chain of Custody form.

**Hecla**
**Mining Company**

Apex Site
Pond 2 Final Closure

## September 2004 TCLP Analysis

Drainage System - Evaporation Cell Solids

| Metal | TCLP Toxicity Limit mg/l | CB896803 | CB896824 | CB896817 | CB896818 | CB896810 | CB896804 |
|---|---|---|---|---|---|---|---|
| Silver | 5 | 0.0204 | 0.0549 | 0.231 | 0.0118 | 0.0269 | 0.0093 |
| Arsenic | 5 | 0.042 | <0.010 | 0.042 | <0.010 | <0.010 | 0.016 |
| Barium | 100 | 0.0559 | <0.002 | 0.0613 | 1.09 | 0.0412 | 0.0068 |
| Cadmium | 1 | 0.139 | 0.702 | 0.167 | 0.119 | 0.29 | 0.181 |
| Chromium | 5 | 0.0108 | <0.006 | <0.006 | 0.0126 | <0.006 | <0.006 |
| Mercury | 0.2 | 0.00107 | 0.00061 | 0.00516 | 0.00093 | 0.00022 | <0.0002 |
| Lead | 5 | <0.005 | <0.005 | 0.912 | 0.134 | <0.005 | <0.005 |
| Selenium | 1 | 0.014 | <0.010 | 0.030 | <0.010 | <0.010 | <0.010 |

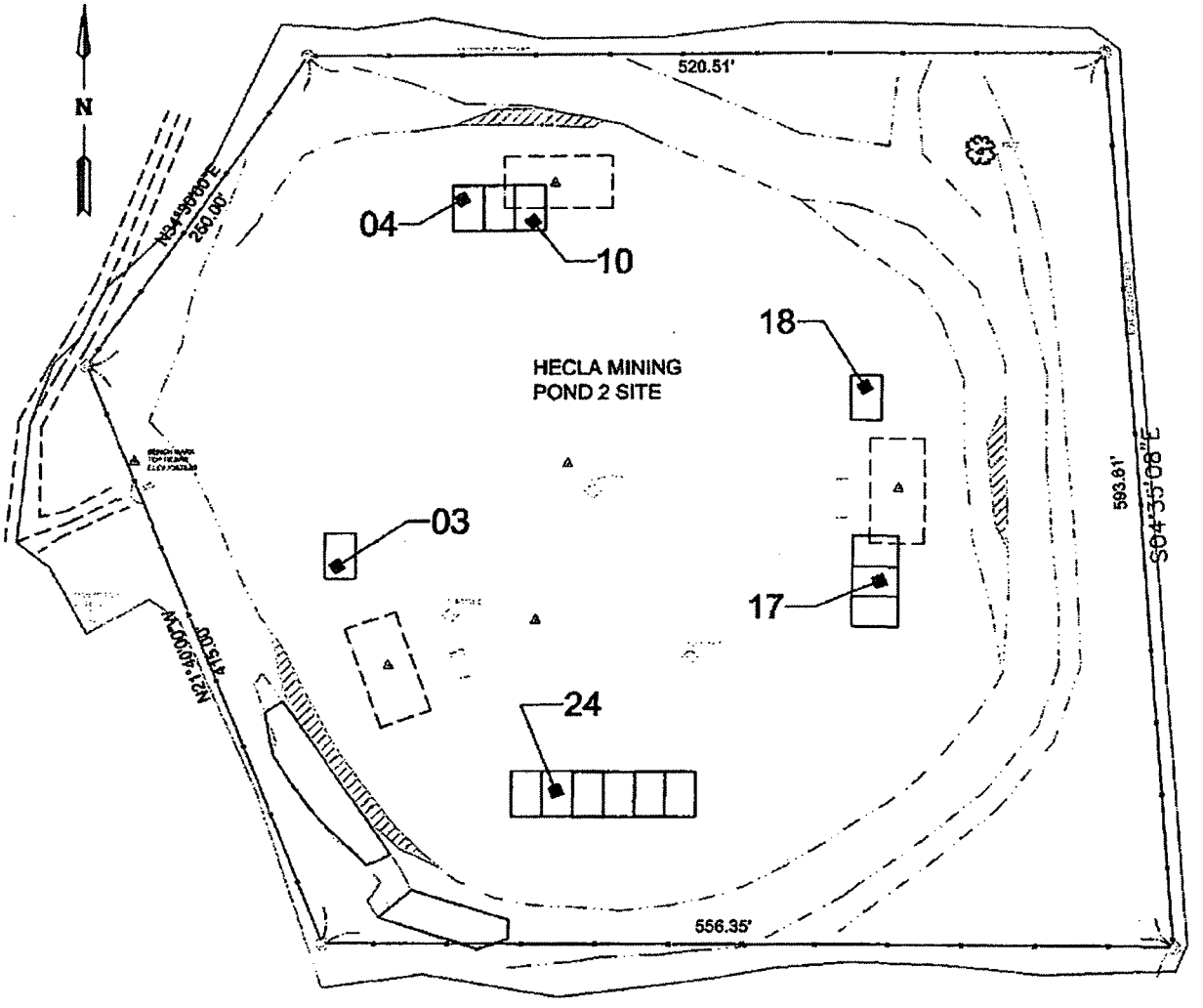
Notes: 1) Samples taken on September 3, 2004
2) Refer to Figure 1 for sample locations

CB89818
03-24

U898248
03-24

# Figure 1

## Plan View of evaporation pond sample locations
## All sample serial numbers have prefix of: CB 8968




SCALE: 1" = 100'

PH2SL01.dwg

U89848
03-24

**SVL ANALYTICAL, INC.**
One Government Gulch • P.O. Box 929 • Kellogg, Idaho 83837-0929 • Phone: (208)784-1258 • Fax: (208)783-0891

# REPORT OF ANALYTICAL RESULTS (TCLP)

CLIENT : HECLA MINING COMPANY
SVL JOB # : 113142
SVL SAMPLE # : 410789

CLIENT SAMPLE ID: CB896804
Sample Collected: 8/03/04 11:25
Sample Receipt : 9/08/04
Date of Report : 9/22/04

Sample Matrix: Solid Waste
Extraction : TCLP **
Extracted: 9/16/04

| Determination | Result | Units | TCLP Reg. Limit | Method | Analysis Date |
|---|---|---|---|---|---|
| Silver | 0.0093 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Arsenic | 0.016 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Barium | 0.0068 | mg/L Ext | 100.0 | 6010B | 9/21/04 |
| Cadmium | 0.181 | mg/L Ext | 1.0 | 6010B | 9/21/04 |
| Chromium | <0.0060 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Mercury | <0.00020 | mg/L Ext | 0.2 | 7470A | 9/20/04 |
| Lead | <0.0050 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Selenium | <0.010 | mg/L Ext | 1.0 | 6010B | 9/21/04 |

** Sample extracted according to EPA method 1311 (TCLP).
Certificate: ID ID00019

Reviewed By: _____ Date 9/22/04
9/22/04 11:09

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

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# REPORT OF ANALYTICAL RESULTS (TCLP)

CLIENT : HECLA MINING COMPANY
SVL JOB # : 113142
SVL SAMPLE # : 410784

CLIENT SAMPLE ID: CB896803
Sample Collected: 8/03/04 11:00
Sample Receipt : 9/08/04
Date of Report : 9/22/04

Sample Matrix: Solid Waste
Extraction : TCLP **
Extracted: 9/16/04

| Determination | Result | Units | TCLP Reg. Limit | Method | Analysis Date |
|---|---|---|---|---|---|
| Silver | 0.0204 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Arsenic | 0.042 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Barium | 0.0559 | mg/L Ext | 100.0 | 6010B | 9/21/04 |
| Cadmium | 0.139 | mg/L Ext | 1.0 | 6010B | 9/21/04 |
| Chromium | 0.0108 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Mercury | 0.00107 | mg/L Ext | 0.2 | 7470A | 9/20/04 |
| Lead | <0.0050 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Selenium | 0.014 | mg/L Ext | 1.0 | 6010B | 9/21/04 |

** Sample extracted according to EPA method 1311 (TCLP).
Certificate: ID ID00019

Reviewed By: _____ Date 9/22/04
9/22/04 11:09

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

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# REPORT OF ANALYTICAL RESULTS (TCLP)

CLIENT : HECLA MINING COMPANY
SVL JOB # : 113142
SVL SAMPLE # : 410785

CLIENT SAMPLE ID: CB896824
Sample Collected: 8/03/04 11:05
Sample Receipt : 9/08/04
Date of Report : 9/22/04

Sample Matrix: Solid Waste
Extraction : TCLP **
Extracted: 9/16/04

| Determination | Result | Units | TCLP Reg. Limit | Method | Analysis Date |
|---|---|---|---|---|---|
| Silver | 0.0549 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Arsenic | <0.010 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Barium | <0.0020 | mg/L Ext | 100.0 | 6010B | 9/21/04 |
| Cadmium | 0.702 | mg/L Ext | 1.0 | 6010B | 9/21/04 |
| Chromium | <0.0060 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Mercury | 0.00061 | mg/L Ext | 0.2 | 7470A | 9/20/04 |
| Lead | <0.0050 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Selenium | <0.010 | mg/L Ext | 1.0 | 6010B | 9/21/04 |

** Sample extracted according to EPA method 1311 (TCLP).
Certificate: ID ID00019

Reviewed By: _____ Date 9/22/04
9/22/04 11:09

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# REPORT OF ANALYTICAL RESULTS (TCLP)

CLIENT : HECLA MINING COMPANY
SVL JOB # : 113142
SVL SAMPLE # : 410786

CLIENT SAMPLE ID: CB896817
Sample Collected: 8/03/04 11:10
Sample Receipt : 9/08/04
Date of Report : 9/22/04

Sample Matrix: Solid Waste
Extraction : TCLP **
Extracted: 9/16/04

| Determination | Result | Units | TCLP Reg. Limit | Method | Analysis Date |
|---|---|---|---|---|---|
| Silver | 0.231 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Arsenic | 0.042 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Barium | 0.0613 | mg/L Ext | 100.0 | 6010B | 9/21/04 |
| Cadmium | 0.167 | mg/L Ext | 1.0 | 6010B | 9/21/04 |
| Chromium | <0.0060 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Mercury | 0.00516 | mg/L Ext | 0.2 | 7470A | 9/20/04 |
| Lead | 0.912 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Selenium | 0.030 | mg/L Ext | 1.0 | 6010B | 9/21/04 |

** Sample extracted according to EPA method 1311 (TCLP).
Certificate: ID ID00019

Reviewed By: _____ Date 9/22/04
9/22/04 11:09

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

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# REPORT OF ANALYTICAL RESULTS (TCLP)

CLIENT : HECLA MINING COMPANY
SVL JOB # : 113142
SVL SAMPLE # : 410787

CLIENT SAMPLE ID: CB896818
Sample Collected: 8/03/04 11:15
Sample Receipt : 9/08/04
Date of Report : 9/22/04

Sample Matrix: Solid Waste
Extraction : TCLP **
Extracted: 9/16/04

| Determination | Result | Units | TCLP Reg. Limit | Method | Analysis Date |
|---|---|---|---|---|---|
| Silver | 0.0118 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Arsenic | <0.010 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Barium | 1.09 | mg/L Ext | 100.0 | 6010B | 9/21/04 |
| Cadmium | 0.119 | mg/L Ext | 1.0 | 6010B | 9/21/04 |
| Chromium | 0.0126 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Mercury | 0.00093 | mg/L Ext | 0.2 | 7470A | 9/20/04 |
| Lead | 0.134 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Selenium | <0.010 | mg/L Ext | 1.0 | 6010B | 9/21/04 |

** Sample extracted according to EPA method 1311 (TCLP).
Certificate: ID ID00019

Reviewed By: _____ Date 9/22/04
9/22/04 11:09

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: ODE NO. C074; DOH NO. 050

**SVL ANALYTICAL, INC.**
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# REPORT OF ANALYTICAL RESULTS (TCLP)

CLIENT : HECLA MINING COMPANY
SVL JOB # : 113142
SVL SAMPLE # : 410788

CLIENT SAMPLE ID: CB896810
Sample Collected: 8/03/04 11:20
Sample Receipt : 9/08/04
Date of Report : 9/22/04

Sample Matrix: Solid Waste
Extraction : TCLP **
Extracted: 9/16/04

| Determination | Result | Units | TCLP Reg. Limit | Method | Analysis Date |
|---|---|---|---|---|---|
| Silver | 0.0269 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Arsenic | <0.010 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Barium | 0.0412 | mg/L Ext | 100.0 | 6010B | 9/21/04 |
| Cadmium | 0.290 | mg/L Ext | 1.0 | 6010B | 9/21/04 |
| Chromium | <0.0060 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Mercury | 0.00022 | mg/L Ext | 0.2 | 7470A | 9/20/04 |
| Lead | <0.0050 | mg/L Ext | 5.0 | 6010B | 9/21/04 |
| Selenium | <0.010 | mg/L Ext | 1.0 | 6010B | 9/21/04 |

** Sample extracted according to EPA method 1311 (TCLP).
Certificate: ID ID00019

Reviewed By: _____ Date 9/22/04
9/22/04 11:09

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

U89848
B3-24

**SVL ANALYTICAL, INC.**

**Quality Control Report**
**Part I Prep Blank and Laboratory Control Sample**

Client :HECLA MINING COMPANY — SVL JOB No: 113142

| Analyte | Method | Matrix | Units | Prep Blank | LCS True | LCS Found | LCS %R | Analysis Date |
|---|---|---|---|---|---|---|---|---|
| Silver | 6010B | ESOIL | mg/L Ext | <0.0050 | 1.00 | 1.09 | 109.0 | 9/21/04 |
| Arsenic | 6010B | ESOIL | mg/L Ext | <0.010 | 1.00 | 1.09 | 109.0 | 9/21/04 |
| Barium | 6010B | ESOIL | mg/L Ext | <0.0020 | 1.00 | 1.07 | 107.0 | 9/21/04 |
| Cadmium | 6010B | ESOIL | mg/L Ext | <0.0020 | 1.00 | 1.06 | 106.0 | 9/21/04 |
| Chromium | 6010B | ESOIL | mg/L Ext | <0.0060 | 1.00 | 1.10 | 110.0 | 9/21/04 |
| Lead | 6010B | ESOIL | mg/L Ext | <0.0050 | 1.00 | 1.07 | 107.0 | 9/21/04 |
| Selenium | 6010B | ESOIL | mg/L Ext | <0.010 | 1.00 | 1.07 | 107.0 | 9/21/04 |
| Mercury | 7470A | ESOIL | mg/L Ext | <0.00020 | 0.00500 | 0.00493 | 98.6 | 9/20/04 |

LEGEND:
LCS = Laboratory Control Sample  LCS %R = LCS Percent Recovery  N/A = Not Applicable

**SVL ANALYTICAL, INC.**

**Quality Control Report**
**Part II Duplicate and Spike Analysis**

Client :HECLA MINING COMPANY — SVL JOB No: 113142

| Test | Method | Mtx | QC SAMPLE ID | Units | Result | Duplicate Found | or MSD | RPD% | Matrix Spike Result | SPK ADD | | %R | Analysis Date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | 6010B | E | 1 | mg/L Ex | 0.0204 | 1.03 | M | 1.0 | 1.02 | 1.00 | | 100.0 | 9/21/04 |
| As | 6010B | E | 1 | mg/L Ex | 0.042 | 1.13 | M | 2.7 | 1.10 | 1.00 | | 105.8 | 9/21/04 |
| Ba | 6010B | E | 1 | mg/L Ex | 0.0559 | 0.299 | M | 32.0 | 0.413 | 20.0 | | 1.8 | 9/21/04 |
| Ba | 6010B | E | 1 | mg/L Ex | 0.0559 | N/A | | N/A | 10.7 | 20.0 | A | 53.2 | 9/21/04 |
| Cd | 6010B | E | 1 | mg/L Ex | 0.139 | 0.309 | M | 4.7 | 0.324 | 0.200 | | 92.5 | 9/21/04 |
| Cr | 6010B | E | 1 | mg/L Ex | 0.0108 | 0.911 | M | 6.0 | 0.858 | 1.00 | | 84.7 | 9/21/04 |
| Pb | 6010B | E | 1 | mg/L Ex | <0.0050 | 0.741 | M | 6.6 | 0.694 | 1.00 | | 69.4 | 9/21/04 |
| Pb | 6010B | E | 1 | mg/L Ex | <0.0050 | N/A | | N/A | 0.828 | 1.00 | A | 82.8 | 9/21/04 |
| Se | 6010B | E | 1 | mg/L Ex | 0.014 | 0.253 | M | 2.4 | 0.247 | 0.200 | | 116.5 | 9/21/04 |
| Hg | 7470A | E | 1 | mg/L Ex | 0.00107 | 0.00180 | M | 15.6 | 0.00154 | 0.0010 | | 47.0 | 9/20/04 |

LEGEND:
RPD% = ( |SAM - DUP| /((SAM + DUP)/2) * 100) UDL = Both SAM & DUP not detected. *Result or *Found: Interference required dilution.
RPD% = ( |SPK - MSD| /((SPK + MSD)/2) * 100) M in Duplicate/MSD column indicates MSD.
SPIKE ADD column, A = Post Digest Spike; %R = Percent Recovery N/A = Not Analyzed; R > 4S = Result more than 4X the Spike Added
QC limits for MS recoveries apply only if the spike is at least 1/4 the concentration of the analyte in the sample.
Control limits for the RPD apply only if the concentration of the analyte in the sample is at least five times the reporting limit.
QC Sample 1: SVL SAM No.: 410784 Client Sample ID: CB896803

SVL ANALYTICAL

→ INVOICE & RESULTS TO HECLA

# CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: HECLA MINING CO.
Contact: CHRIS GYPTON
Address: 6500 N. MINERAL DR.

Phone Number: 208-769-4135
FAX Number: 208-769-4122

NOTES:
1) Ensure proper container packaging.
2) Ship samples promptly following collection.
* 3) Designate Sample Reject Disposition
PO#:
Project Name: APEX POND 2

Table 1. -- Matrix Type
1 = Surface Water, 2 = Ground Water
3 = Soil/Sediment, 4 = Rinsate, 5 = Oil
6 = Waste, 7 = Other (Specify)

Samplers Signature:

FOR SVL USE ONLY
SVL JOB #
113142

Lab Name: SVL Analytical, Inc. (208) 784-1258 FAX (208) 783-0891
Address: One Government Gulch, Kellogg, ID 83837-0929

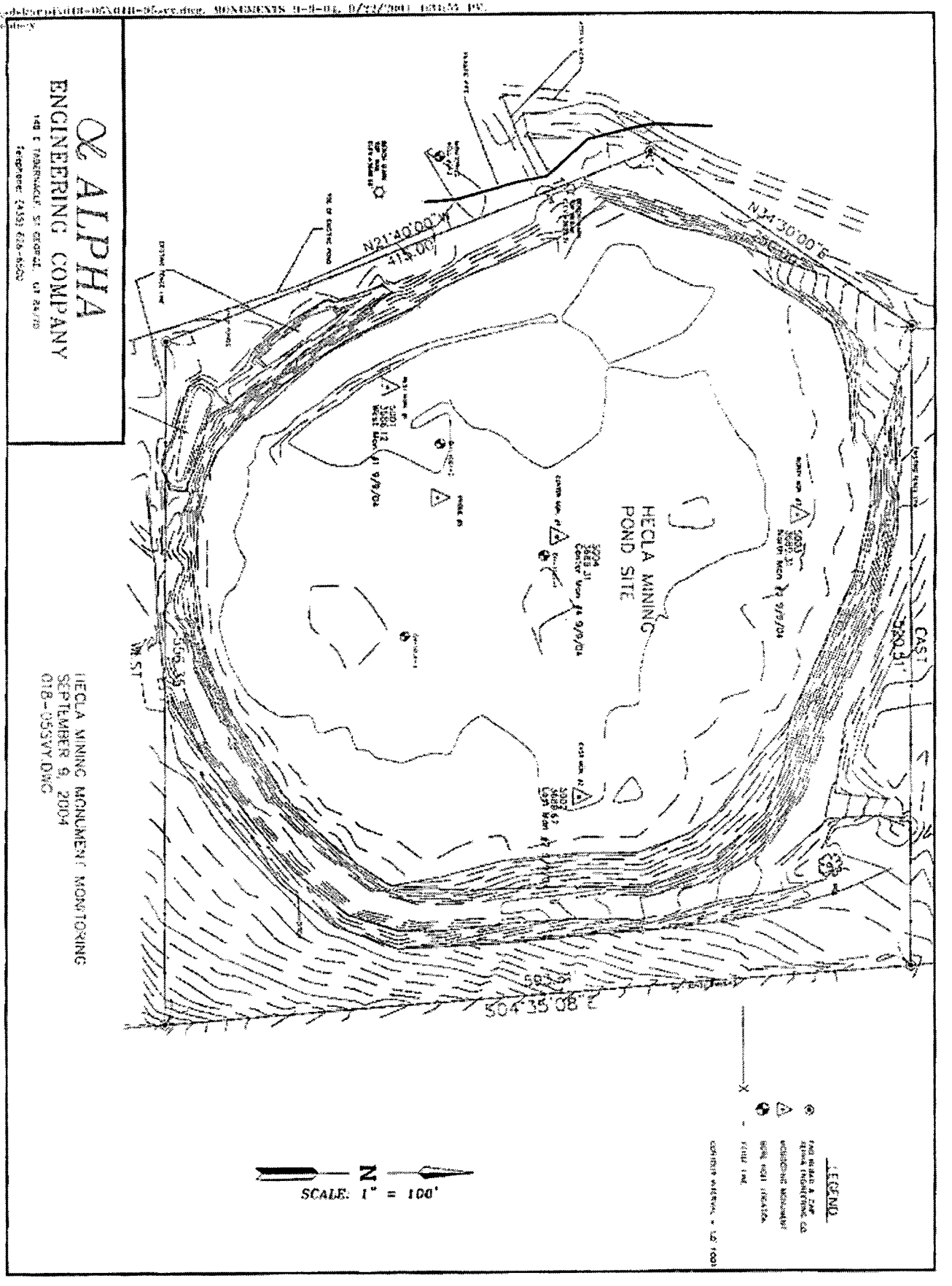
| Sample ID | Collection: Date | Collection: Time | Misc: Collected by: (Init.) | Misc: Matrix Type From Table 1 | Misc: No. of Containers | Misc: Sample Filtered ? Y/N | Preservative(s): Unpreserved (Ice Only) | Preservative(s): HNO3 | Preservative(s): HCL | Preservative(s): H2SO4 | Preservative(s): NAOH | Preservative(s): Other (Specify) | Analyses Required: TCLP EXTRACT. | Analyses Required: RCRA 8 METALS | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. CB896803 | 8/3/04 | 11:00 | JDJ | | | | | | | | | | X | X | NO time on Sample 9-8-04 LP |
| 2. CB896824 | | 11:05 | | | | | | | | | | | X | X | |
| 3. CB896817 | | 11:10 | | | | | | | | | | | X | X | |
| 4. CB896818 | | 11:15 | | | | | | | | | | | X | X | |
| 5. CB896810 | | 11:20 | | | | | | | | | | | X | X | |
| 6. CB896804 | ↓ | 11:25 | ↓ | | | | | | | | | | X | X | |
| 7. | | | | | | | | | | | | | | | |
| 8. | | | | | | | | | | | | | | | |
| 9. | | | | | | | | | | | | | | | |
| 10. | | | | | | | | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Relinquished by: | Date: 8/3/04 | Time: 1:00PM | Received by: Amber Pulkowski | Date: 9-8-04 | Time: 11:40 |
| Relinquished by: | Date: | Time: | Received by: | Date: | Time: |

* Sample Reject: | | Return | | Dispose | | Store (30 Days)

White: LAB COPY Yellow: CUSTOMER COPY SVL-COC 12/95

UB 8648
03-24


& ALPHA
ENGINEERING COMPANY
HECLA MINING
POND SITE
N21°40'00"W
415.00'
N34°30'00"E
S04°35'08"E
EAST
SCALE: 1" = 100'
LEGEND
HECLA MINING MONUMENT MONITORING
SEPTEMBER 9, 2004
018-05SVY.DWG

# ALPHA ENGINEERING COMPANY

148 East Tabernacle, St. George, UT 84770 • (435) 628-6500 • Fax: (435) 628-6553


## *HECLA MONUMENT MONITORING*

| Monument # | Monitor Date May 19, 2004 Elevation | Monitor Date September 9, 2004 Elevation | Monitor Date Elevation | Monitor Date Elevation | Monitor Date Elevation |
|---|---|---|---|---|---|
| #1 | 3686.14' | 3686.12' | | | |
| #2 | 3689.73' | 3689.67' | | | |
| #3 | 3689.38' | 3689.31' | | | |
| #4 | 3686.35' | 3686.31' | | | |